

Patent Claims

1. An ultrasonic probe (1) for a stereoscopic image forming system, which relates to a raster-like recording of data and its electronic processing, said probe including groups (12) of sound transducers (11), which are arranged inside an elastomeric envelope (10) on a cylindrical carrier, rotatable around a longitudinal axis, characterised in that the carrier is made up of at least two segments (3, 4), in that the segments are tiltable relative to one another through a tilting angle, and what is more about a tilting axis, which lies transversely to the longitudinal axis and preferably eccentrically to it, and in that there is a stable positional state in which the segments adopt a position with alignment in the direction of the longitudinal axis under the influence of a dynamic and/or static re-setting force.
2. A probe in accordance with claim 1, characterised in that the elastomeric envelope (10) exerts a re-setting force.
3. A probe in accordance with claim 1 or claim 2, characterised in that an elastic cable, which is inserted in a longitudinal channel (13, 14) of the segments (3, 4), exerts a re-setting force.
4. A probe in accordance with one of the claims 1 to 3, characterised in that the segments (3, 4) are rigid, a hinge-like connection (7) exists between two neighbouring segments and a connecting pin (74) journaled in two eyes of the hinge-like connection (71, 72) forms the tilting axis.
5. A probe in accordance with one of the claims 1 to 4, characterised in that two or more segments (3, 4, 5) are present and in that each

segment carries a number of sound transducers (11), the number being equal to the number of groups (12) or a multiple of this, distributed over the whole periphery.

6. A probe in accordance with one of the claims 1 to 5, characterised in that more than two segments (3, 4, 5) which are tiltable relative to one other are present and that the tilting axes are aligned parallel to one another.
7. A probe in accordance with one of the claims 1 to 6, characterised in that the maximum tilting angle has a value of up to 30°.
8. A probe in accordance with one of the claims 1 to 7, characterised in that between neighbouring segments (3, 4) two regions of different size are separated from one another by the eccentrically arranged tilting axis and in that the two segments form at least approximately a form-matched connection in the larger of these regions, when they are in the stable positional state.
9. A probe in accordance with one of the claims 1 to 8, characterised in that three groups (12a, 12b, 12c) of sound transducers (11) are arranged on the carrier, in a fixed or variable direction respectively, which is parallel to the longitudinal axis or inclined towards this, in that each sound transducer has a diameter in the range of 6 to 10 mm, this diameter being preferably approximately 8 mm and in that the ratio between the diameters of the carrier and of the sound transducer is in the range of 1.2 to 1.8, preferably approximately 1.5.

10. The use of a probe in accordance with one of the claims 1 to 9, characterised in that on a human or animal body three-dimensional representations of a moving organ, in particular of the heart, are produced from an interior of the body, with an electronic image forming system and in real time, wherein the interior of the body is accessible from the outside, the interior of the body being the oesophagus in particular.